

**Notice of Allowability**

Application No.

10/814,663

Applicant(s)

LI ET AL.

Examiner

Art Unit

Sangwoo Ahn

2166

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/22/2007.
2. ☒ The allowed claim(s) is/are 1 - 6, 11 - 19, 24 and 27 - 30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20070329.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**HOSAIN ALAM****SUPERVISORY PATENT EXAMINER**

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Christopher J. Lutz (Reg. No. 44,883) on 3/28/2007.

The application has been amended as follows:

Rewrite claim 1 as follows:

"1. A method of organizing data comprising:

analyzing an interface specification indicative of device specific parameters;

identifying similarities between the device specific parameters corresponding to devices of different vendors;

enumerating a plurality of the device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different devices by including normalized parameters for each of the different devices, including defining the enumerated device specific parameters as indicative of a common parameter in the common object model, the devices including a varying arrangement of subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the

Art Unit: 2166

device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

receiving a request for device attributes, the device attributes indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

computing a response responsive to the request, the computation employing the normalized parameters in the common object model, computing the response indicating interrogating device specific agents corresponding to the type of the device; and

communicating the response by employing the computed normalized parameters, the normalized parameters independent of the device specific parameters.”

Rewrite claim 2 as follows:

“2. The method of claim 1 further comprising:

enumerating the similar device specific parameters corresponding to other device specific parameters.”

Rewrite claim 3 as follows:

“3. The method of claim 2 further comprising:

translating device specific parameters to corresponding parameters in the common object model, the translating further including:

Art Unit: 2166

matching at least one device specific parameter to a common object model parameter; and

computing an equivalent value for the common object model parameter, the common object model parameter applicable to device specific parameters of other devices.”

Cancel claims 7 – 10.

Rewrite claim 11 as follows:

“11. A method of monitoring a managed information environment comprising:

analyzing interface specifications for a plurality of devices, the devices including a varying arrangement of subdevices, each of the devices and subdevices having device specific parameters, the interface specification indicative of the device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device;

identifying commonalities and distinctions between each of the analyzed interface specifications;

normalizing device specific parameters into a common object model, the common object model operable to store the device specific parameters for each of the plurality of device without enumerating the identified distinctions, the plurality of devices including a varying arrangement of subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the

Art Unit: 2166

back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

receiving a query from a user, the query requesting a response including device specific parameters;

retrieving, from the common object model, the normalized device specific parameters corresponding to devices implicated by the query;

computing the query response employing the included device specific parameters and interrogating device specific agents corresponding to the type of the device;

displaying, to the user, the computed query response, the computer query response indicative of the device specific parameters and indifferent to the identified commonalities and distinctions."

Rewrite claim 14 as follows:

"14. A data management device operable to organize data according to a common object model comprising:

a management application operable to enumerate a plurality of device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different device by including normalized parameters for each of the different devices, the devices including a varying arrangement of subdevices, each of the subdevices having the

Art Unit: 2166

device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

a server operable to receive a user request for a device query, the device query indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

a processor in the server operable to execute the management application to compute a query response responsive to the user request, the computation employing the normalized parameters in the common object model, the management application further operable to compute the query response by interrogating device specific agents corresponding to the type of the device; and

an interface to a console operable to display the query response to the user by employing the computed normalized parameters, the normalized parameters independent of the device specific parameters."

Rewrite claim 16 as follows:

"16. The data management device of claim 15 wherein the management application is further operable to:

translate device specific parameters to corresponding parameters in the common object model, the translating further including:

matching at least one device specific parameter to a common object model parameter; and

computing an equivalent value for the common object model parameter, the common object model parameter applicable to device specific parameters of other devices.”

Cancel claims 20 – 22.

Rewrite claim 24 as follows:

“24. A method of organizing data comprising:

enumerating a plurality of device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different devices by including normalized parameters for each of the different devices, enumeration of device specific parameters further comprising identifying interrelationships between the devices, the devices including a varying arrangement of subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

Art Unit: 2166

receiving a user request for a device query, the device query indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

computing a query response responsive to the user request, the computation employing the normalized parameters in the common object model and retrieving the interrelations between the device, the normalized parameters further comprising the interrelationships between the devices, the normalized parameters indicative of other devices coupled to the device, computing the query response including interrogating device specific agents corresponding to the type of the device; and

displaying the query response to the user by employing the computed normalized parameters, the normalized parameters independent of the device specific parameters."

Rewrite claim 28 as follows:

"28. A computer program product having a computer readable storage medium operable to store computer program logic embodied in computer program code executable by a processor, encoded thereon for organizing data via a common object model comprising:

computer program code for enumerating a plurality of device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different device by including normalized parameters for each of the different devices, the devices including a varying arrangement of subdevices, each of the subdevices having device specific



Art Unit: 2166

parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

computer program code for receiving a user request for a device query, the device query indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

computer program code for computing a query response responsive to the user request, the computation employing the normalized parameters in the common object model, computing the query response including interrogating device specific agents corresponding to the type of the device; and

computer program code for displaying the query response to the user by employing the computer normalized parameters, the normalized parameters independent of the device specific parameters."

Rewrite claim 29 as follows:

"29. A set of processor based instructions stored on a computer readable storage medium and executable by a processor responsive to the instructions, the instructions including program code for organizing data via a common object model comprising:

program code for analyzing an interface specification indicative of device specific parameters;

Art Unit: 2166

program code for identifying similarities between the device specific parameters corresponding to devices of different vendors;

program code for enumerating a plurality of the device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different devices by including normalized parameters for each of the different devices, including defining the enumerated device specific parameters as indicative of a common parameters in the common object model, the devices including a varying arrangement of subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model;

program code for receiving a user request for a device query, the device query indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

program code for computing a query response responsive to the user request, the computation employing the normalized parameters in the common object model, computing the query response including interrogating device specific agents corresponding to the type of the device; and

Art Unit: 2166

program code for displaying the query response to the user by employing the computed normalized parameters, the normalized parameters independent of the device specific parameters."

Rewrite claim 30 as follows:

"30. A data management device having a set of processor based instructions executable by a processor responsive to the instructions, the processor based instructions stored on a computer readable storage medium and operable to organize data according to a common object model, the instructions comprising:

means for enumerating a plurality of device specific parameters in a common object model adapted to normalize distinctions between the device specific parameters, the device specific parameters corresponding to different devices by including normalized parameters for each of the different devices, the devices including a varying arrangement of subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model, the means for enumerating further comprising:

means for normalizing, including at least one of identifying, in the common object model, a common parameter or defining a device specific parameters as

Art Unit: 2166

an attribute in the common object model, the normalized parameters codified for accessing the back end of the storage array device;

means for receiving a user request for a device query, the device query indicative of the device specific parameters corresponding to a plurality of dissimilar devices having different device specific parameters;

means for computing a query response responsive to the user request, the computation employing the normalized parameters in the common object model, computing the query response including interrogating device specific agents corresponding to the type of the device; and

means for displaying the query response to the user by employing the computed normalized parameters, the normalized parameters independent of the device specific parameters."

The pending claims are 1 – 6, 11 – 19, 24 and 27 – 30.

***Allowable Subject Matter***

Claims 1 – 6, 11 – 19, 24 and 27 – 30 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 1, 11, 14, 24 and 28 – 30 identify the distinct features, "enumerating a plurality of device specific parameters in a common object model ... the device specific parameters corresponding to different device by including normalized parameters for each of the different devices ... the device including a varying arrangement of

Art Unit: 2166

subdevices, each of the subdevices having device specific parameters, the device specific parameters including back end parameters, the back end parameters indicative of specific subdevices within the device, wherein the subdevices are disk drives each having independent storage device attributes, each of the storage device attributes corresponding to attributes of the common object model," which are not taught or suggested by the prior art of records. The closest art, Collins (U.S. Publication Number 2002/0178243) disclosing an apparatus and method for centrally managing a number of network devices, fails to suggest the claimed limitations as mentioned above in combination with other claimed elements. The above features in conjunction with all other limitation of the dependent and independent claims 1 – 6, 11 – 19, 24 and 27 – 30 are hereby allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sangwoo Ahn whose telephone number is (571) 272-5626. The examiner can normally be reached on M-F 10-6.

Art Unit: 2166

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner Sangwoo Ahn  
AU 2166

3/29/2007 SW



**HOSAIN ALAM**  
**SUPERVISORY PATENT EXAMINER**